

REMARKS

Claims 1-4, 6-16, 18-28, and 30-36 stand rejected under 35 U.S.C. § 103(a) allegedly as being obvious over US 2003/0204513 (Bumbulis) in view of US 5,727,081 (Burges). Following entry of the present response, claims 1-4, 6-16, 18-28, and 30-36 will be pending in the present application. No claims have been amended. No new matter has been added.

The Office Action rejected claim 1 stating that Bumbulis discloses all of claim 1, except the mapping function contained in claim 1(c). (Office Action at p.3). The Office Action further states that the mapping function in claim 1(c), is taught by Burges, column 13, lines 48-67 and column 14, lines 1-10. (Id.). The Office Action concludes that combining Bumbulis and Burges would result in teaching claim 1 of the present application and that the combination of Bumbulis and Burges would have been obvious. The Applicant respectfully disagrees.

With all due respect to the contentions in the Office Action, Burges does not teach the mapping function of claim 1. Claim 1 of the present application refers to a **type specific** mapping function that is applied to the column value, where the column value is a feature of the present application. What is recited in Claim 1 is “applying a **type specific** mapping function to the column value,” not just mapping in general. The cited sections of Burges do not describe a type specific mapping function. Further, Burges does not teach a type specific mapping function that is applied to the column value because Burges does not contain the column value of claim 1 of the present application.

It is no surprise that Burges does not teach the type specific mapping function of claim 1 because Burges is directed to an entirely different system in an entirely different field. The presently claimed embodiments are directed to minimizing the size of b-trees associated with databases, where one goal is making mobile devices more efficient. (Specification at paragraphs 0004, 0006, 0007, and 0018). In contrast, the subject matter of Burges is directed towards creating a system for handwriting recognition. (Burges at col. 1, ll. 16-31 and col. 3, ll. 50-54). Burges does not disclose the use of a b-tree database at all. Further, to the extent that Burges mentions databases, it is in their traditional usage. Nowhere does Burges suggest a new way to use or change databases.

Because Burges does not teach a type specific mapping function applied to a column value, the Applicant asserts that one cannot combine Burges with Bumbulis to disclose claim 1. Accordingly, the Applicant respectfully requests withdrawal of the rejection of claim 1.

In addition, Bumbulis fails to disclose the feature of claim 1(c) wherein the processor “generates the normalized column value by determining the type of the column value.” This feature was originally found in now cancelled claim 5. In the rejection of that feature contained in the Office Action mailed on December 21, 2006, the Examiner states that Bumbulis teaches such a feature at paragraphs 21 and/or 228. (December 21, 2006 Office Action at p. 4-5).

As previously argued, paragraph 228 makes no description of generating the normalized column value or determining the type of the column value. The only mention of the word ‘type’ is in reference to determining what type of index to generate, e.g., b-tree or trie-based. In contrast, the type that claim 1 of the present application is referring to is the type of the column value, e.g., string, integer, float, etc. This is completely different from Bumbulis.

Clarifying the previously presented argument, paragraph 21 of Bumbulis describes improving b-tree performance by storing only partial key information and an additional identifier, if needed, to find the full key. (Bumbulis at paragraph 0021). The cited section simply makes no description of determining the type of the column value. Indeed, the method of the section cited from Bumbulis is discussed generally in the present application as “resulting in suboptimal compression ratios,” which the systems and methods of the present application improve upon. (Specification at paragraph 0009). The systems and methods of the present application use the column information so that “a normalized key may be replaced with a byte that indicates how many bytes it shares in common with the previous key, followed by bytes that are different.” (Id. at paragraphs 0009, 0020, 0045-0047). In contrast, paragraph 21 of Bumbulis describes the prior art as storing only partial information where there may be a need for an additional identifier with a lookup function.

Because Bumbulis neither teaches nor suggests the feature of claim 1(c) wherein a processor “generates the normalized column value by determining the type of the column value,” one cannot combine Bumbulis and Burges to teach claim 1 because features of claim

1 would be missing. Accordingly, the Applicant respectfully requests withdrawal of the rejection of claim 1.

Claims 13 and 25 contain the same features that the Applicant argues are patentable in claim 1. The Applicant submits that claims 13 and 25 are therefore patentable for the same reasons as described above. Accordingly, the Applicant respectfully requests withdrawal of the rejection of claims 13 and 25.

Inasmuch as claims 2-4, 6-8, 14-16, 18-20, and 26-32 all depend directly or indirectly from independent claim 1, 13, or 25, the Applicant submits that that the dependent claims are patentable for the same reasons as described above. Accordingly, the Applicant respectfully requests withdrawal of the rejection of claims 2-4, 6-8, 14-16, 18-20, and 26-32.

The Office Action rejected claim 9 stating that Bumbulis discloses all features of claim 9, except the unnormalization portions. (Office Action at p.5-6). The Office Action further states that the unnormalization features of claim 9 are taught by Burges at column 11, lines 9-29 and column 12, lines 12-35. (Id.). The Applicant respectfully disagrees.

Burges does not teach the unnormalization described in claim 9. Claim 9 of the present application involves unnormalizing an index key that previously was normalized. In Burges, the word “unnormalized” refers to data that has not been normalized, i.e. the computed scores for symbols and numeric characters remain unnormalized. (Burges at column 11, lines 9-29 and column 12, lines 12-35). Thus, the cited sections of Burges never teach unnormalizing previously normalized data because the data referred to was never normalized in the first place. Further, Burges never teaches unnormalizing index key column information relating to b-tree compression.

Therefore, Burges does not teach a system for index key column unnormalization of a normalized index key. Accordingly, the Applicant respectfully requests the withdrawal of the rejection of claim 9.

Independent claims 20 and 33, as amended, contain similar features as independent claim 9, and are therefore allowable for the same reasons given for claim 9 above. The Applicant respectfully requests that the Examiner withdraw the rejections and allow claims 20 and 33.

Dependent claims 10-12, 21-24, and 34-36 are all variously dependent on independent claims 9, 20, and 33, and are therefore allowable for at least the reasons given

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above for the independent claims. The Applicant respectfully requests that the Examiner withdraw the rejections and allow claims 10-12, 21-24, and 34-36.

CONCLUSION

For all the foregoing reasons, the Applicant respectfully submits that the present application is now in condition for allowance.

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